

What is claimed is:

1. A radiation image storage panel, comprising a stimuable phosphor layer capable of emitting light when being exposed to stimulating rays, which cause the stimuable phosphor layer to emit the light in proportion to an amount of energy stored on the stimuable phosphor layer during exposure of the stimuable phosphor layer to radiation,

wherein the stimuable phosphor layer is adapted for radiating out the emitted light with an intensity distribution that is compressed in a direction, which is normal to a surface of the stimuable phosphor layer, and into an oblate distribution, which is flatter than a $\cos \theta$ distribution.

2. A radiation image storage panel as defined in Claim 1 wherein the surface of the stimuable phosphor layer on a light radiating side, from which the emitted light is radiated out, has been subjected to flattening processing for flattening the surface of the stimuable phosphor layer such that the emitted light is radiated out with the intensity distribution that is compressed in the direction, which is normal to the surface of the stimuable phosphor layer, and into the oblate distribution, which is flatter than the $\cos \theta$ distribution.

3. A radiation image storage panel as defined in Claim 2 wherein the flattening processing is a processing for polishing the surface of the stimuable phosphor layer on the

light radiating side and thereby flattening the stimuable phosphor layer.

4. A radiation image storage panel as defined in Claim 2 wherein the flattening processing is a processing for
5 filling a material, which has a refractive index larger than 1, into depressed regions of the surface of the stimuable phosphor layer on the light radiating side and thereby flattening the stimuable phosphor layer.

5. A radiation image storage panel as defined in
10 Claim 4 wherein the material, which has a refractive index larger than 1, is a high-molecular weight material.

6. A radiation image storage panel as defined in Claim 4 wherein the material, which has a refractive index larger than 1, is a stimuable phosphor.